

CONSTRUCTION SPECIFICATION

634. MANURE TRANSFER

1. SCOPE

This Specification covers furnishing materials and installing all components of the waste transfer systems as outlined in this specification and the drawings.

Components of the systems may include reception pits, pumps, pipes, chutes, valves, or other such structures or equipment.

2. MATERIALS

All materials and equipment used shall conform to the quality and grade noted on the approved plans set forth in Section 6, or as otherwise listed.

Reinforced concrete placement and other structures and components, including grates or covers, shall be made in conformance with the requirements of Construction Specification 313.

Equipment such as pumps, rams, chutes, chains, valves, conveyers or augers shall be new, with manufactures' warranties, as applicable. Their estimated minimum serviceable life shall be 10 years or more or as otherwise specified in Section 6.

Pipe used in gravity flow systems shall conform to the following specifications:

<u>Pipe Material</u>	<u>Specification</u>
Polyvinyl Chloride (PVC)	ASTM-D3033, ASTM-D3034, ASTM-F679, or ASTM-F794
Concrete	ASTM-C76
Steel	ASTM-A53, ASTM-A134, ASTM-A135, or ASTM-A139
Corrugated Polyethylene(PE)	AASHTO-M294, or ASTM-F894

The pipe and fittings, where applicable, shall be marked by the manufacturer as described in the applicable ASTM specification.

PVC Pipe for pressure flow systems shall meet the requirements of schedule 40 (ASTM-D1785) or SDR Pressure Rated Pipe (ASTM-D2241) for the operating pressure specified in Section 6 or determined by the pump manufacturer. Markings shall meet the requirements of ASTM-D1785 or ASTM-D2241 as applicable.

Fittings for pressure systems shall be rated equal to the pipe being specified.

Joints in PVC and PE gravity pipelines with push-on (gasketed) joints shall meet the requirements of ASTM D3212 for joint tightness.

Joints in PVC pressure flow systems shall meet the requirements of ASTM-D2672. PVC cement shall meet ASTM-D2564.

Concrete pipe joints shall comply with ASTM-C443.

Used pipe or seconds shall not be used. Pipe shall be approved by the engineer prior to installation.

Precast concrete units shall conform to PennDOT requirements for such units and be approved by the Engineer or his/her designated representative.

3. EQUIPMENT REQUIREMENTS

The equipment furnished as part of the waste transfer system shall be compatible with the type of waste to be transferred and meet all the performance requirements set forth in

Section 6 of this specification. The contractor shall be responsible for assessing the consistency, nature, quality and quantity of the waste to be transferred and provide the appropriate equipment.

The contractor shall provide in writing the performance characteristics (discharge and head) of the transfer equipment and its relationship to or requirements of the following:

- a) Operating horsepower requirements.
- b) Maximum or minimum elevation or distance instructions.
- c) Daily operational maintenance requirements.
- d) Estimated serviceable life.

4. COMPONENT INSTALLATION

All components of the system shall be installed to the lines and grades shown on the drawings.

Openings in the concrete for appurtenances, pipe, etc., shall be sealed by packing a neat cement-mortar mix bituminous caulk or other appropriate joint sealing compound between the appurtenance and the wall to form a liquid-tight seal.

a. Equipment

All transfer equipment shall be installed to the manufacturer's recommendations. The final installation shall be certified by the installer as to meeting all the guidelines, recommendations, or requirements of the manufacturer and this specification.

b. Pipelines

All pipe shall be installed to provide watertight joints.

Pipe installed in conjunction with a pump shall meet or exceed the pump manufacturer's recommendations.

Elbows or bends in the pipe alignment greater than 5 degrees shall be supported by thrust blocks.

Pipe shall be placed on undisturbed soil or non-yielding compacted material. Over-excavation must be corrected as noted on the drawings, or as directed by the responsible engineer or his designated representative.

Backfill shall be placed so as not to damage the pipe nor disturb alignment in any way.

All pipe shall be properly bedded as designated on the drawings or in Section 6.

c. Grates

All grates or coverings shall be constructed to be removable for maintenance purposes.

5. CERTIFICATION

The manure transfer system shall be certified by the contractor responsible for the final installation to the fact that it conforms to all the applicable construction specifications and requirements of the material or equipment manufacturers.

6. ADDITIONAL CONDITIONS WHICH APPLY TO THIS PROJECT ARE: